

CLAIMS

1. A method of forming a metal-comprising mass for a semiconductor construction, comprising:
 - providing a semiconductor substrate;
 - providing one or more metallo-organic precursors proximate the substrate, at least one of the one or more precursors not comprising platinum;
 - exposing the one or more precursors to a reducing atmosphere to release metal from the one or more precursors; and
 - depositing the released metal over the semiconductor substrate to form a metal-comprising mass on the semiconductor substrate.
2. The method of claim 1 wherein the substrate comprises an upper surface consisting of one or more of TiN, elemental Ti, WN, elemental W, TaN and elemental Ta; and wherein the upper surface is exposed to the reducing atmosphere during formation of the metal-comprising mass.
3. The method of claim 1 wherein the substrate comprises an oxidizable upper surface; and wherein the metal-comprising mass is formed physically against the upper surface; the oxidizable upper surface being exposed to the reducing atmosphere during the release of at least some of the metal.

4. The method of claim 1 wherein the substrate comprises an upper surface consisting of one or more of TiN, elemental Ti, WN, elemental W, TaN and elemental Ta; and wherein the metal-comprising mass is formed physically against the upper surface.

5. The method of claim 1 wherein the one or more precursors comprise ruthenium, and wherein the released metal consists essentially of ruthenium.

6. The method of claim 1 wherein the one or more precursors comprise rhodium, and wherein the released metal consists essentially of rhodium.

7. The method of claim 1 wherein the one or more precursors comprise iridium, and wherein the released metal consists essentially of iridium.

8. The method of claim 1 wherein the one or more precursors comprise cobalt, and wherein the released metal consists essentially of cobalt.

9. The method of claim 1 wherein the one or more precursors comprise palladium, and wherein the released metal consists essentially of palladium.

10. The method of claim 1 wherein the one or more precursors comprise nickel, and wherein the released metal consists essentially of nickel.
11. The method of claim 1 wherein the one or more precursors comprise tricarbonyl-cyclohexadiene ruthenium.
12. The method of claim 1 wherein the reducing atmosphere comprises NH_3 .
13. The method of claim 1 wherein the reducing atmosphere comprises activated hydrogen.
14. The method of claim 1 wherein the reducing atmosphere comprises H_2 .
15. A method of forming a metal-comprising mass for a semiconductor construction, comprising:
- providing a semiconductor substrate;
 - providing a metal-comprising precursor proximate the substrate;
 - exposing the metal-comprising precursor to NH_3 to release metal from the precursor; and
 - depositing the released metal over the semiconductor substrate to form the metal-comprising mass.

16. The method of claim 15 wherein the exposing comprises exposing the precursor comprises to an atmosphere consisting of NH_3 to release the metal from the precursor.

17. The method of claim 15 wherein the precursor comprises ruthenium, and wherein the released metal consists essentially of ruthenium.

18. The method of claim 15 wherein the precursor comprises rhodium, and wherein the released metal consists essentially of rhodium.

19. The method of claim 15 wherein the precursor comprises iridium, and wherein the released metal consists essentially of iridium.

20. The method of claim 15 wherein the precursor comprises cobalt, and wherein the released metal consists essentially of cobalt.

21. The method of claim 15 wherein the precursor comprises palladium, and wherein the released metal consists essentially of palladium.

22. The method of claim 15 wherein the precursor comprises platinum, and wherein the released metal consists essentially of platinum.

23. The method of claim 15 wherein the precursor comprises nickel, and wherein the released metal consists essentially of nickel.

24. A method of forming a capacitor, comprising:

- providing a semiconductor substrate having an electrical node supported thereby;
- forming an electrical interconnect in electrical contact with the node, the electrical interconnect comprising conductively-doped silicon;
- forming a conductive material over the electrical interconnect, the conductive material comprising one or more of TiN, WN, TaN, elemental Ta, elemental Ti and elemental W;
- providing a metallo-organic precursor proximate the conductive material;
- exposing the precursor to a reducing atmosphere to release metal from the precursor;
- depositing the released metal over the conductive material to form a first capacitor electrode;
- forming a dielectric material over the first capacitor electrode; and
- forming a second capacitor electrode over the dielectric material.

25. The method of claim 24 wherein the precursor comprises ruthenium, and wherein the released metal consists essentially of ruthenium.

26. The method of claim 24 wherein the precursor comprises rhodium, and wherein the released metal consists essentially of rhodium.

27. The method of claim 24 wherein the precursor comprises iridium, and wherein the released metal consists essentially of iridium.

28. The method of claim 24 wherein the precursor comprises cobalt, and wherein the released metal consists essentially of cobalt.

29. The method of claim 24 wherein the precursor comprises palladium, and wherein the released metal consists essentially of palladium.

30. The method of claim 24 wherein the precursor comprises platinum, and wherein the released metal consists essentially of platinum.

31. The method of claim 24 wherein the precursor comprises nickel, and wherein the released metal consists essentially of nickel.

32. The method of claim 24 wherein the precursor comprises tricarbonyl-cyclohexadiene ruthenium.
33. The method of claim 24 wherein the reducing atmosphere comprises NH_3 .
34. The method of claim 24 wherein the reducing atmosphere comprises activated hydrogen.
35. The method of claim 24 wherein the reducing atmosphere comprises H_2 .
36. The method of claim 24 wherein the conductive material consists of one or more of TiN, elemental Ti, WN, elemental W, TaN and elemental Ta.
37. The method of claim 24 wherein the second capacitor electrode comprises conductively-doped silicon.
38. The method of claim 24 wherein the second capacitor electrode comprises metal; and wherein the forming the second capacitor electrode comprises exposing a metal-comprising precursor to a reducing atmosphere.

39. The method of claim 24 wherein the second capacitor electrode comprises metal; and wherein the forming the second capacitor electrode comprises exposing a metal-comprising precursor to an oxidizing atmosphere.

40. The method of claim 24 wherein the second capacitor electrode comprises metal; wherein the dielectric material comprises an oxide; and wherein the forming the second capacitor electrode comprises exposing a metal-comprising precursor to an oxidizing atmosphere.

41. The method of claim 24 wherein the second capacitor electrode comprises metal; wherein the dielectric material comprises an Ta_2O_5 ; and wherein the forming the second capacitor electrode comprises exposing a metal-comprising precursor to an oxidizing atmosphere comprising one or more of N_2O , O_2 and O_3 .